

PROJECT GOALS & OBJECTIVES

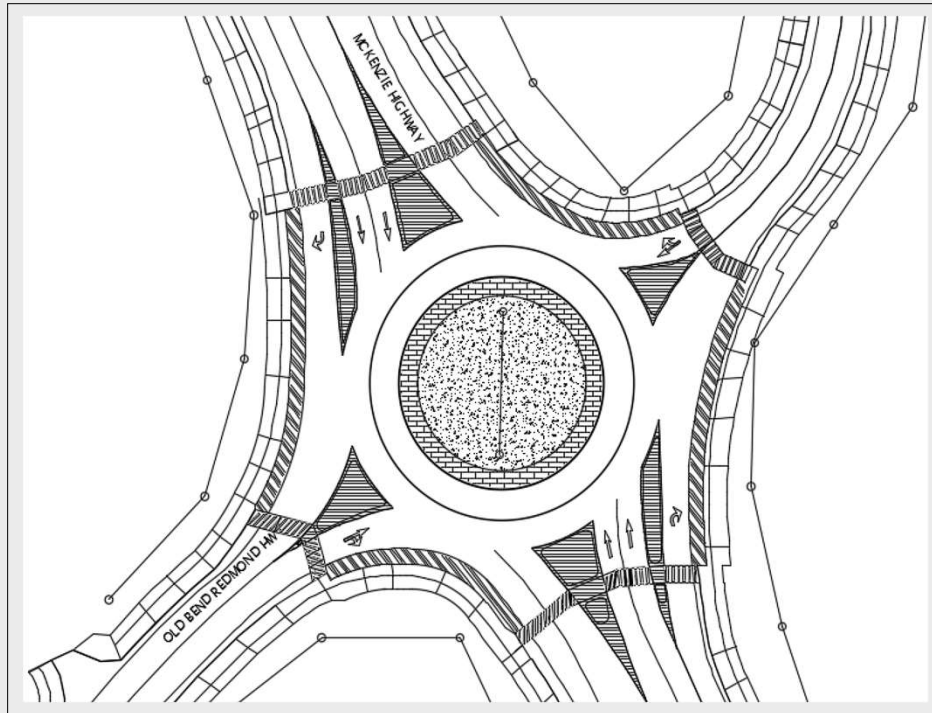
- Improve safety
- Adapt to increasing traffic
- Fix deteriorating pavement
- Treat roadway runoff
- Pedestrian Mobility



PROJECT SITE  
Image taken from Google Earth

# OLD BEND REDMOND REDESIGN

LOCATION: U.S HIGHWAY 20 & OLD BEND REDMOND HIGHWAY

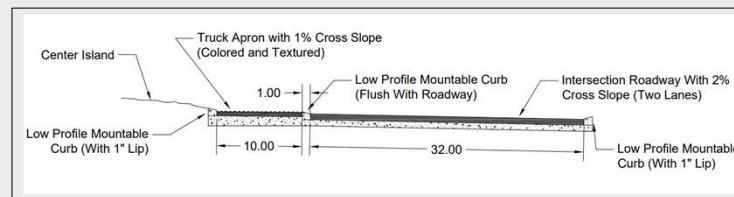


## ROUNDAABOUT DESIGN

- ODOT Highway Design Manual
- 175' Inscribed circular diameter
- 14'-16' lane widths with 2% cross slope
- 10' wide truck apron with 1% cross slope
- Dedicated right turn lanes on NB and SB legs
- A level of service for all legs of the intersection

## SAFETY

- 8' buffer between edge of asphalt to sidewalk
- Crosswalks 45' from road entry
- Implement signs and roadway markings (Stop, Yield, etc..)
- Street light placement & light distribution at Night (Dark Sky)
- All project designs aspects meet ODOT, AASHTO, and FHWA safety requirements

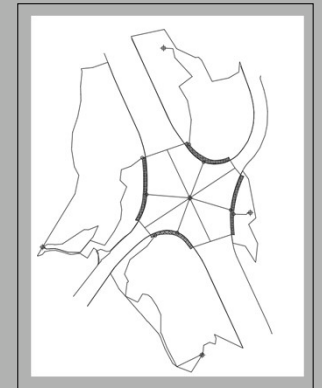


## WATER RESOURCES

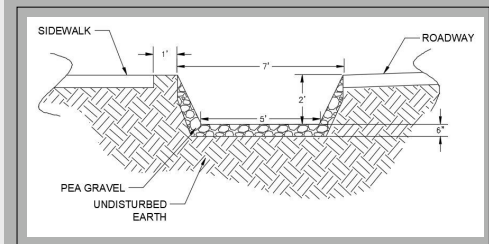
- ODOT Hydraulic Design Manual
- Rational method
- 50-year design storm

### Drainage Ditch Hydraulics

Collection Zone	Flow Rate (cfs)	Volume (ft <sup>3</sup> )	Volume (cy)
NE	5.8	920	34
SE	4.2	597	22
SW	5.1	1,286	48
NW	5.8	1,397	5.2



## DITCH CROSS SECTION



- Holds 1400 ft<sup>3</sup> of runoff
- 63.4° wall angle from the base
- Depth of 2ft

## CURRENT CONDITIONS

- Major freight route
- Current ADT: 22,100
- Pavement is in poor condition
- LOS F during peak hours
- Underground waterline
- Overhead powerlines
- Annual precipitation ranges 10-12 in



Actual car crash image on Old Bend Redmond found in Canvas files